

REMARKS

Claims 1-12 are pending in the application. Applicants have canceled Claims 1-4 and 6-12. Applicants have added Claims 13-27. Applicants have amended the specification to include section headings and an abstract. Applicants respectfully request reconsideration and reexamination of the pending claims.

Claim Rejections 35 U.S.C. § 112

Claims 8-9 are rejected under 35 U.S.C. § 112 for lack of antecedent basis. Applicants have canceled Claims 8-9 in this Amendment. Therefore, this rejection is moot.

Claim Rejections 35 U.S.C. § 103

Claims 5-7 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,610,729 ("Nakajima"). Applicants have canceled Claims 6-7 and 9. Therefore, this rejection is moot with respect to Claims 6-7 and 9.

Independent Claim 5 has been amended to include the elements of Claim 10 with some modifications. As noted below, the Examiner only rejected Claim 10 under 35 U.S.C. § 103 as being unpatentable over Nakajima in view of U.S. Patent No. 6,023,296 ("Lee"), therefore, Applicants would like to address Nakajima and Lee with respect to amended independent Claim 5. With respect to Claim 10, the Examiner indicated that "Nakajima does not disclose wherein said picture activity utilizes the bit rate of the compressed bit-stream." Office action dated April 14, 2004, page 7.

Nakajima also does not teach or suggest the act of "deriving said estimate by processing said quantization values and said measure of the bit rate." Rather, Nakajima discloses noise reduction in a decoder and describes how picture activity is determined by processing decoded pixel values to obtain the mean square error. The mean square error is then used to perform noise reduction on the pixel values.

Lee does not cure the deficiencies of Nakajima. Lee does not teach or suggest the act of "generating a measure of the bit rate of the compressed bit-stream." Rather, Lee discloses an encoder having a particular form of rate control. Lee discloses that a rough estimate of picture complexity is obtained, and this rough estimate is used recursively to update a predicted number of bits necessary to encode a frame, in a feed back control system. Lee discloses controlling the

quantizing scale of an encoder according to a target bit rate. Lee teaches that the target bit rate is determined based on buffer occupancy. Col. 10, lines 15-50. In the encoder of Lee, therefore, there is a relationship between the buffer occupancy and the compressed bit rate. This relationship does not provide a suggestion that the compressed bit rate should, or even could, be used to derive a measure of picture activity.

The Examiner indicates that “the bit rate is helpful in determining a reasonable quantization scale, which is a measure of picture activity.” Office action dated April 14, 2004, page 7. This statement is not supported in Lee, and appears to have been formulated using impermissible hindsight, based on the teachings of the present application.

In addition, there is no suggestion or motivation to combine the references. Nakajima and Lee use standard methods of measuring the picture activity of uncoded pictures. These measures are then used for very different purposes. The measures in Nakajima are used for performing noise reduction. The measures in Lee are used for recursively adjusting a target bit rate. There would be no reason for the skilled person, when considering how to derive a noise measure, to consider the rate control mechanism of an encoder. Even if that person did attempt to combine the teachings of the two references, they both teach the same, well known method of measuring picture activity - from the picture values themselves.

Furthermore, while a relationship between picture complexity and a target or required bit rate may be observed in many encoders, it is by no means obvious to consider whether any relationship holds “the other way around,” in an attempt to derive picture complexity information from a single simple parameter of a compressed signal. To do so is to make an inventive step. To take this idea and successfully apply it in the very different application of single ended noise estimation requires additional inventive skill.

For at least the reasons noted above, Nakajima and Lee do not teach or suggest the subject matter of Claim 5. Accordingly, independent Claim 5 is allowable. Claims 13-22 depend from Claim 5, and are therefore allowable for at least the reasons set forth above with respect to Claim 5.

New independent Claim 23 calls for the act of “generating a measure c of the bit rate of the compressed bitstream.” For at least the reasons noted above, Nakajima and Lee do not teach or suggest this element. Accordingly, independent Claim 23 is allowable. Claims 24-27 depend

from Claim 23, and are therefore allowable for at least the reasons set forth above with respect to Claim 23.

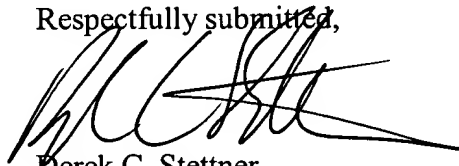
Claims 8 and 10 are rejected under 35 U.S.C. § 103 as being unpatentable over Nakajima in view of U.S. Patent No. 6,023,286 ("Lee"). Applicants have canceled Claims 8 and 10. Therefore, this rejection is moot with respect to Claims 8 and 10.

Claim 12 is rejected under 35 U.S.C. § 103 as being unpatentable over Nakajima in view of U.S. Patent No. 5,675,385 ("Sugiyama"). Applicants have canceled Claim 12. Therefore, this rejection is moot with respect to Claim 12.

CONCLUSION

In view of the foregoing, entry of this paper and allowance of Claims 5 and 13-27 are respectfully requested. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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